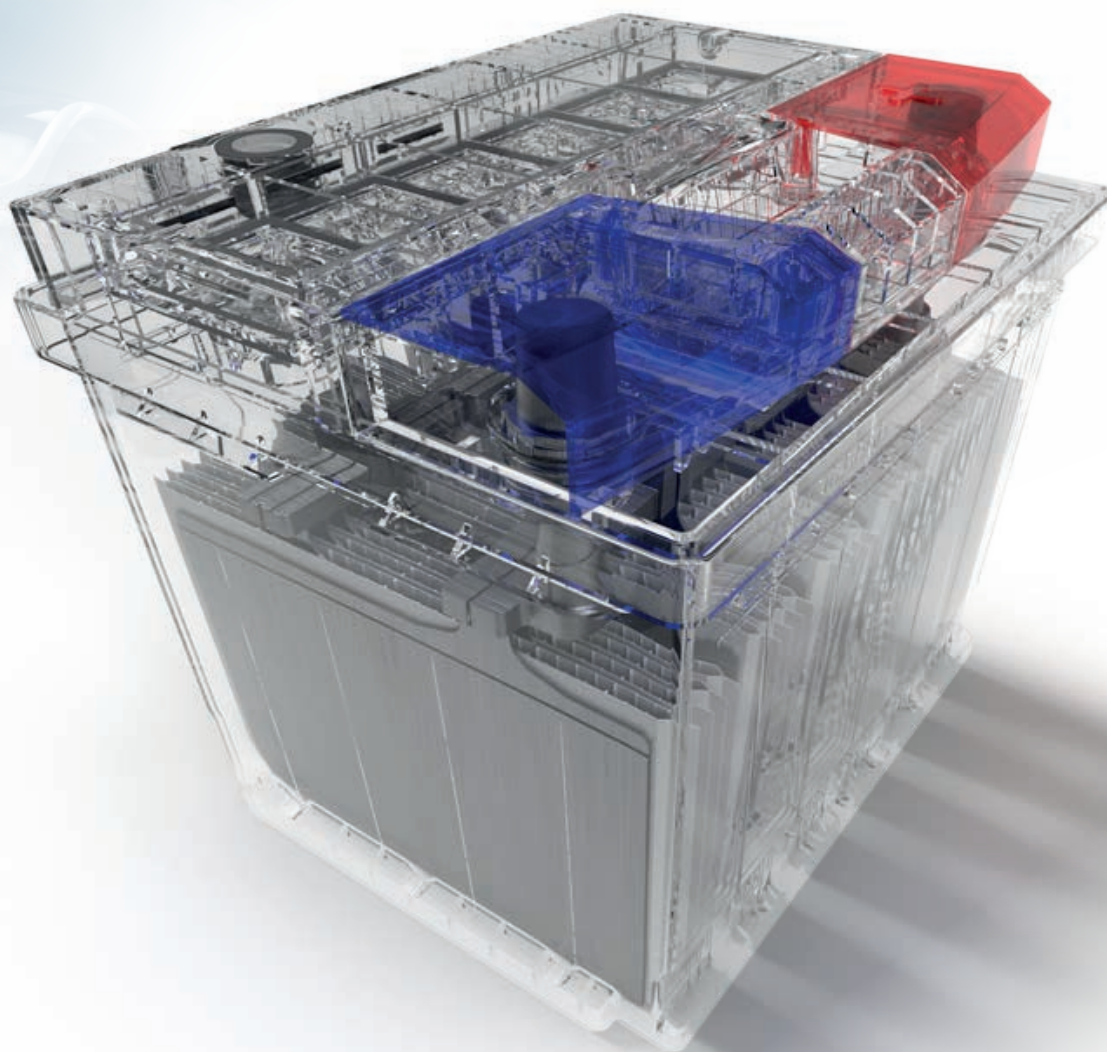


MONBAT[®]

BATTERIES



AUTOMOTIVE CATALOGUE

LIGHT VEHICLES

COMMERCIAL AND HEAVY-DUTY VEHICLES

SPECIAL VEHICLES

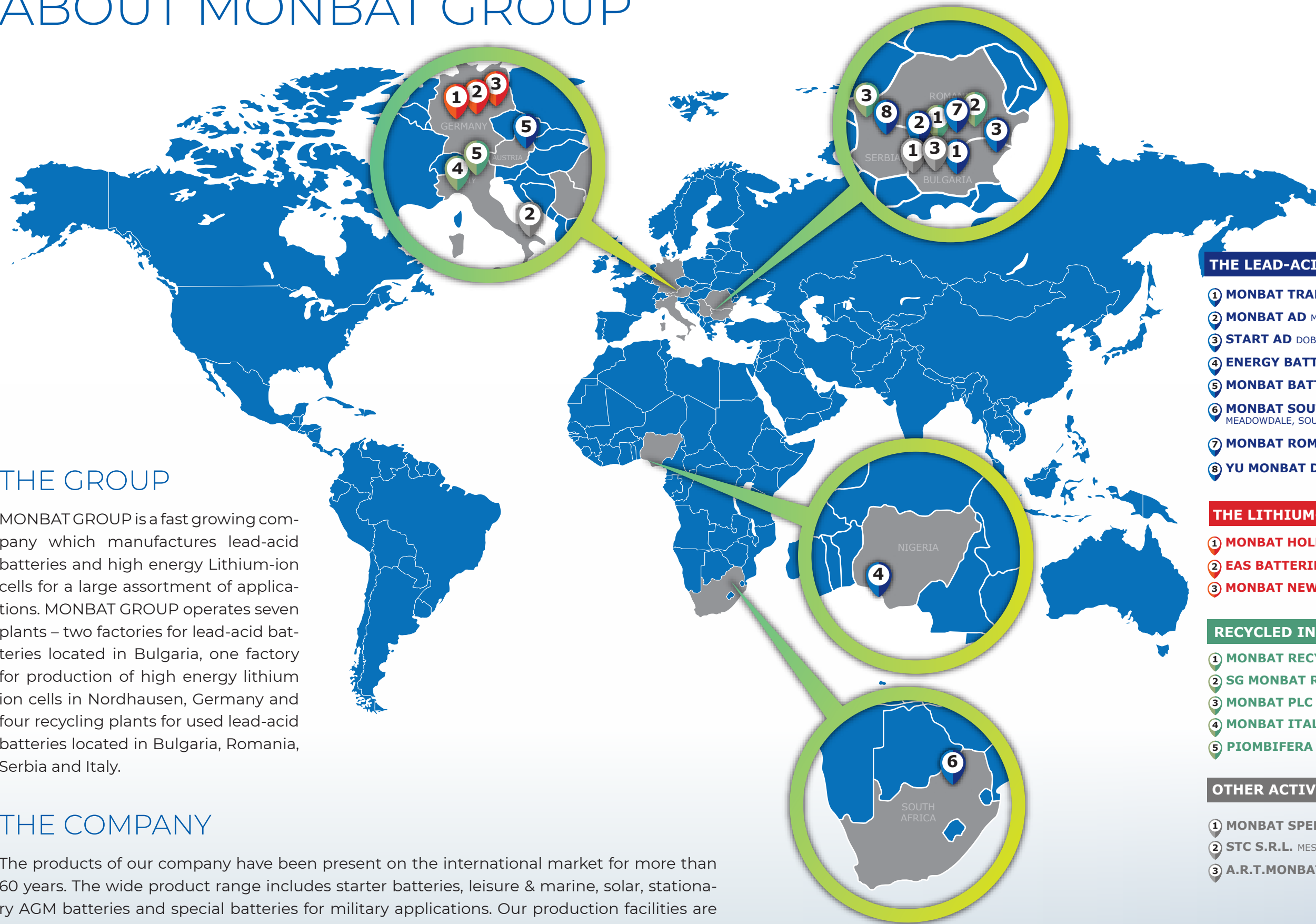
ABOUT MONBAT GROUP

THE GROUP

MONBAT GROUP is a fast growing company which manufactures lead-acid batteries and high energy Lithium-ion cells for a large assortment of applications. MONBAT GROUP operates seven plants – two factories for lead-acid batteries located in Bulgaria, one factory for production of high energy lithium ion cells in Nordhausen, Germany and four recycling plants for used lead-acid batteries located in Bulgaria, Romania, Serbia and Italy.

THE COMPANY

The products of our company have been present on the international market for more than 60 years. The wide product range includes starter batteries, leisure & marine, solar, stationary AGM batteries and special batteries for military applications. Our production facilities are equipped with state-of-the-art equipment and machines using the latest technologies, granting high quality products and reaching annual volume of over 4M batteries.



THE LEAD-ACID BUSINESS

- ① **MONBAT TRADING OOD** SOFIA, BULGARIA
- ② **MONBAT AD** MONTANA, BULGARIA
- ③ **START AD** DOBRICH, BULGARIA
- ④ **ENERGY BATTERIES NIGERIA LIMITED** LAGOS, NIGERIA
- ⑤ **MONBAT BATTERIEN GMBH** VIENNA, AUSTRIA
- ⑥ **MONBAT SOUTH AFRICA PROPRIETARY LTD** MEADOWDALE, SOUTH AFRICA
- ⑦ **MONBAT ROMANIA SRL** BUCHAREST, ROMANIA
- ⑧ **YU MONBAT DOO** YAGODINA, SERBIA

THE LITHIUM-ION BUSINESS

- ① **MONBAT HOLDING GMBH** NORDHAUSEN, GERMANY
- ② **EAS BATTERIES GMBH** NORDHAUSEN, GERMANY
- ③ **MONBAT NEW POWER GMBH** NORDHAUSEN, GERMANY

RECYCLED INDUSTRIAL MATERIALS

- ① **MONBAT RECYCLING EAD** MONTANA, BULGARIA
- ② **SG MONBAT RECYCLING SRL** ILFOV, ROMANIA
- ③ **MONBAT PLC DOO** INDIJA, SERBIA
- ④ **MONBAT ITALY SRL** LA SPECIA, ITALY
- ⑤ **PIOMBIFERA ITALIANA S.P.A.** LA SPECIA, ITALY

OTHER ACTIVITIES

- ① **MONBAT SPED EOOD** SOFIA, BULGARIA
- ② **STC S.R.L.** MESAGNE, ITALY
- ③ **A.R.T.MONBAT AD** DOBRICH, BULGARIA

LIGHT VEHICLE BATTERY RANGE



START STOP VEHICLES

ADVANCED START/STOP

BASIC START/STOP

AGM SERIES

EFB SERIES

CONVENTIONAL VEHICLES

HEAVY URBAN DRIVING

MODERATE EQUIPMENT

STANDART EQUIPMENT

PREMIUM SERIES

FORMULA SERIES

DYNAMIC SERIES

VEHICLE REQUIREMENTS

START/STOP SYSTEM REDUCED CO ₂ EURO 5/6	MANUFACTURER RECOMMENDATION Change with same type	MANUFACTURER RECOMMENDATION Change with same type			
START/STOP SYSTEM	✓	✓	✗	✗	✗
REGENARATIVE BRAKING	■■■■■	■■■	✗	✗	✗
HEAVY URBAN DRIVING	■■■■■	■■■■■	■■■■■	■■■	■■
ADVANCED EQUIPMENT	■■■■■	■■■■■	■■■■	■■■	■■

BATTERY REQUIREMENTS

CRANKING POWER - CCA	■■■■■	■■■■	■■■■■	■■■	■■
CYCLING CAPABILITY	■■■■■	■■■■	■■■■	■■	■■
CHARGE ACCEPTANCE	■■■■■	■■■■■	■■■■	■■■	■■■
LIFE EXPECTANCY	■■■■■	■■■■■	■■■■	■■■	■■■
BEST CHOICE	MILD HYBRID	LONG LIFE	EXTRA POWER	VAST RANGE	COST EFFECTIVE

THE FUTURE AGM START STOP

In the coming years around 80% of newly manufactured cars will be equipped with a Start-Stop system to reduce fuel consumption and CO₂ emissions by turning off idling engines. Supporting Start-Stop systems is just one of the required battery functions as new cars are equipped with an increasing number of power hungry luxury features - navigation systems, multimedia displays, Wi-Fi and smartphone interfaces.



BENEFITS

VALVE REGULATED LEAD-ACID (VRLA)

- Original equipment (OE) quality product and specification
- Designed & developed for vehicles with advanced Start-Stop systems with regenerative braking for energy recovery
- Ensuring fuel saving and reducing CO₂ emissions
- 5 times better cycle life stability compared to conventional batteries.
- Highest cold cranking amperes (CCA) enables engine starts even in extreme climates while keeping all features functioning
- Highest Level of safety by AGM VRLA technology (Valve Regulated)
- Long shelf life
- Eco Friendly Product and 99% Recyclable

RECOMMENDED FOR:

- Micro Hybrid & Mild Hybrid (MHEV) with Start-Stop systems
- Ideal for large cars, SUVs, vans and all modern vehicles with Start-Stop systems and power-hungry electrical items
- Wide car park coverage from limited number of SKUs
- Optimal solution for partial state of charge operation

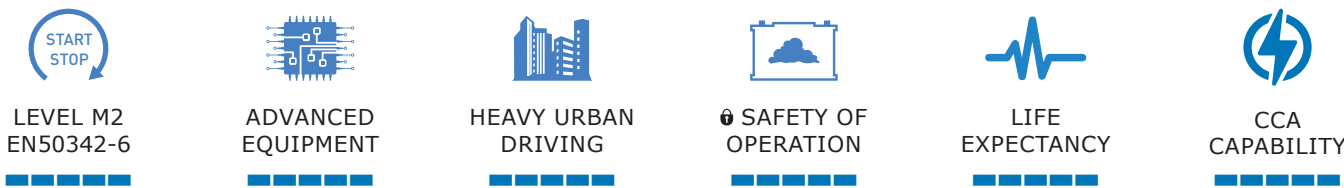
REMEMBER

AGM BATTERY
MUST BE REPLACED
WITH AGM.



LIGHT VEHICLE BATTERY RANGE

MONBAT
BATTERIES



BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

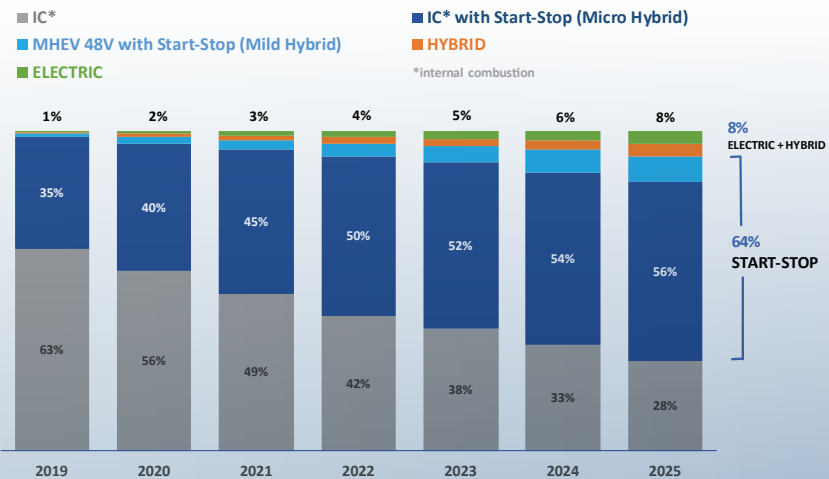
Water consumption	Charge retention	Vibration resistance	Endurance Level	Micro-cycle performance
W4	C2	V3	E3	M2

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout		Terminals	Hold Down
560 901 064	60	640	L2	242	175	190	0		1	B13
570 901 076	70	760	L3	278	175	190	0		1	B13
580 901 084	80	840	L4	310	175	190	0		1	B13
595 901 086	95	860	L5	353	175	190	0		1	B13

- In 2019 light vehicles with start-stop systems accounted for nearly 36% of the European car-park mix
- The trend points to a progressive increase in the number of cars that feature a start-stop system in the coming years
- By 2025 the percentage of driven cars with start-stop systems is expected to grow to a total of 64% (Mild and Micro Hybrids)
- The Expected growth in the aftermarket of OE replacement AGM and EFB batteries is therefore expected to reach approximately 56%

Expected trend for changes in the European car-park mix



*Source: EU28+EFTA (European Free Trade Association), Monbat research estimation

NEW TREND

EFB START STOP

EFB technology quickly became the primary choice of most vehicle manufacturers with entry level Start-Stop systems. Vehicles today are specially designed to meet and exceed the requirements of those systems. The new extended range of MONBAT EFB series features carbon technology additives to the NAM for greater dynamic charge acceptance bringing the latest OEM trend to the aftermarket.



BENEFITS

SEALED MAINTENANCE FREE

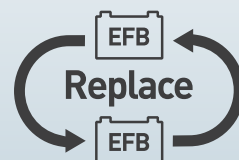
- Original equipment (OE) quality product and specification
- Designed & developed for vehicles with entry level Start-Stop systems
- 4 times better cycle life stability compared to conventional batteries
- Exceptional dynamic charge acceptance thanks to carbon technology additive in NAM
- High level reliability for heavy urban driving on short distances and frequent stops
- Built-in charge level indicator - MAGIC EYE
- Eco Friendly Product and 99% Recyclable

RECOMMENDED FOR:

- Micro Hybrid vehicles with entry level start-stop systems
- Wide car park coverage for EU and Asian models. Range features 10 types DIN and JIS sizes.
- Ideal compatibility with standard power train vehicles that make lots of regular short journeys
- Optimal solution for partial state of charge operation

REMEMBER:

Some basic-level start-stop vehicles come with an EFB. EFB batteries should always be replaced with EFB. To improve performance, EFB batteries alternatively can be replaced with an AGM battery.

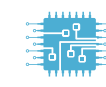


LIGHT VEHICLE BATTERY RANGE

MONBAT
BATTERIES



LEVEL M1
EN50342-6



ADVANCED
EQUIPMENT



HEAVY URBAN
DRIVING



SEALED
MAINTENANCE
FREE



LIFE
EXPECTANCY



CCA
CAPABILITY

BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

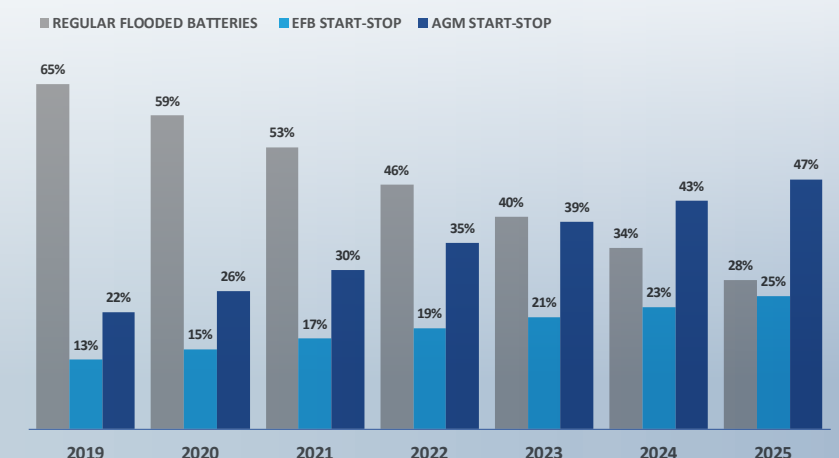
Water consumption	Charge retention	Vibration resistance	Endurance Level	Micro-cycle performance
W4	C2	V2	E2	M1

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
560 002 056	60	560	L2	242	175	190	0		1	B13
565 002 056	65	560	D23	230	170	220	0		1	B01
NEW 565 003 056	65	560	D23	230	170	220	1		1	B01
565 002 068	65	680	LB3	278	175	175	0		1	B14
570 002 068	70	680	L3	278	175	190	0		1	B13
572 002 068	72	680	D26	260	170	220	0		1	B01
NEW 575 002 074	75	740	LB4	310	175	175	0		1	B14
580 002 074	80	740	L4	310	175	190	0		1	B13
585 002 074	85	740	D31	304	173	220	0		1	B01
590 002 084	90	840	L5	353	175	190	0		1	B13

- In 2019 the Regular flooded batteries are twice as much as the start/stop batteries
- The trend points to a progressive increase in the number of cars that feature a start-stop system in the coming years
- By 2025 the percentage of driven cars with start-stop systems is expected to surpass the flooded batteries and triple their volume.
- In addition the AGM start/stop batteries will open 20% gap to EFB start/stop due to further rise in electrical equipment

EXPECTED TREND FOR USAGE OF AGM, EFB AND REGULAR FLOODED BATTERIES



NEXT GENERATION PREMIUM SERIES

MONBAT Premium series is the newest High Performance battery for the next generation of light vehicles with conventional ignition systems. The wide range of coverage features carbon technology additive in NAM for greater dynamic charge acceptance and brings latest OE trend to the aftermarket.



BENEFITS

SEALED MAINTENANCE FREE

- Original equipment (OE) quality product and specification.
- 3 times better cycle life stability compared to conventional batteries.
- Exceptional dynamic charge acceptance thanks to carbon technology additive in NAM
- Ideal for extreme weather conditions thanks to the latest Full Frame Punch technology and pasting scrim
- +30% enhanced starting power for top level performance
- High level of reability
- Built-in charge level indicator - MAGIC EYE
- Eco Friendly Product and 99% Recyclable

RECOMMENDED FOR:

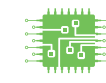
- Designed & developed for highly equipped vehicles with the highest power demands
- Ideal compatibility with standard power train vehicles that make lots of regular short journeys in urban area
- Full coverage for all EU and Asian models of vehicles
- Comprehensive Range features 20 types DIN and JIS sizes covering 90% of the car park

LIGHT VEHICLE BATTERY RANGE

MONBAT®
BATTERIES



EXTREME
TEMPERATURES



ADVANCED
EQUIPMENT



HEAVY URBAN
DRIVING



SEALED
MAINTENANCE
FREE



LIFE
EXPECTANCY



CCA
CAPABILITY



BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

Water consumption	Charge retention	Vibration resistance	Endurance Level
W4	C2	V2	E2

SPECIFICATIONS

	Battery Type	Performance		Box	Dimensions			Technical Characteristics			
		Capacity, Ah	CCA, A [EN]		L	W	H	Layout		Terminals	Hold Down
NEW	545 090 033 SMF	45	330	B19	197	128	220	0		3	B01
NEW	545 091 033 SMF	45	330	B19	197	128	220	1		3	B01
NEW	550 053 040 SMF	50	400	B24	237	128	220	0		1	B00
NEW	550 055 040 SMF	50	400	B24	237	128	220	1		1	B00
NEW	553 027 050 SMF	53	500	LB1	207	175	175	0		1	B14
	556 112 056 SMF	56	560	L1	207	175	190	0		1	B13
NEW	563 078 060 SMF	63	600	LB2	242	175	175	0		1	B14
	566 019 066 SMF	66	660	L2	242	175	190	0		1	B13
NEW	565 027 060 SMF	65	600	D23	230	170	220	0		1	B01
NEW	565 028 060 SMF	65	600	D23	230	170	220	1		1	B01
NEW	575 046 072 SMF	75	720	LB3	278	175	175	0		1	B14
	575 083 072 SMF	75	720	L3	278	175	190	0		1	B13
NEW	580 043 076 SMF	80	760	L3	278	175	190	0		1	B13
NEW	575 027 070 SMF	75	700	D26	260	170	220	0		1	B01
NEW	575 028 070 SMF	75	700	D26	260	170	220	1		1	B01
NEW	585 015 078 SMF	85	780	LB4	310	175	175	0		1	B14
NEW	590 046 082 SMF	90	820	L4	310	175	190	0		1	B13
NEW	600 032 082 SMF	100	820	D31	304	173	220	0		1	B01
NEW	600 033 082 SMF	100	820	D31	304	173	220	1		1	B01
	600 044 092 SMF	100	920	L5	353	175	190	0		1	B13

BEST SELLER

FORMULA SERIES

MONBAT Formula series is a vast range of automotive batteries complying with all auto car park and OE specifications. It is designed for average equipment vehicles which require extra starting power with consistently high performance for longer periods of time.



BENEFITS

SEALED MAINTENANCE FREE

- Original equipment (OE) quality product and specification
 - Advanced Ex-Metal Calcium technology for exceptional starting power
 - High level safety and longer life with built-in SMF labyrinth system for gas recombination
 - Designed & developed for the complete international auto park of European and Asian models of cars
 - Comprehensive range of DIN and JIS available in a HIGH HEAT Technology for Tropical Markets
 - Built-in charge level indicator - MAGIC EYE
 - Eco Friendly Product and 99% Recyclable
- RECOMMENDED FOR:**
- Designed & developed for vehicles with average to high power demands
 - Ideal compatibility with moderate power train vehicles for everyday driving
 - Comprehensive Range with 58 models with 99% auto park coverage

LIGHT VEHICLE BATTERY RANGE

MONBAT
BATTERIES



EXTREME
TEMPERATURES



MODERATE
EQUIPMENT



NORMAL
DRIVING



SEALED
MAINTENANCE
FREE



LIFE
EXPECTANCY



CCA
CAPABILITY



BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

Water consumption	Charge retention	Vibration resistance	Endurance Level
W4	C2	V1	E1

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout		Terminals	Hold Down
540 046 032 SMF	40	320	LB1	207	175	175	0		1	B14
545 012 036 SMF	45	360	LB1	207	175	175	0		1	B14
545 059 036 SMF	45	360	L1	207	175	190	0		1	B13
550 014 042 SMF	50	420	LB1	207	175	175	0		1	B14
550 027 042 SMF	50	420	L1	207	175	190	0		1	B13
550 056 042 SMF	50	420	LB2	242	175	175	0		1	B14
550 103 042 SMF	50	420	L2	242	175	190	0		1	B13
555 019 048 SMF	55	480	LB2	242	175	175	0		1	B14
555 059 048 SMF	55	480	L2	242	175	190	0		1	B13
560 077 054 SMF	60	540	LB2	242	175	175	0		1	B14
560 078 054 SMF	60	540	L2	242	175	190	0		1	B13
560 103 054 SMF	60	540	L2	242	175	190	1		1	B13
565 105 058 SMF	65	580	LB2	242	175	175	0		1	B14
565 019 058 SMF	65	580	L2	242	175	190	0		1	B13
563 018 052 SMF	63	520	LB3	278	175	175	0		1	B14
566 013 058 SMF	66	580	LB3	278	175	175	0		1	B14
566 048 058 SMF	66	580	L3	278	175	190	0		1	B13
570 014 064 SMF	70	640	LB3	278	175	175	0		1	B14
570 083 064 SMF	70	640	L3	278	175	190	0		1	B13
570 111 064 SMF	70	640	L3	278	175	190	1		1	B13
575 046 068 SMF	75	680	LB3	278	175	175	0		1	B14
575 012 068 SMF	75	680	L3	278	175	190	0		1	B13
580 035 072 SMF	80	720	LB3	278	175	175	0		1	B14
580 043 072 SMF	80	720	L3	278	175	190	0		1	B13
580 045 072 SMF	80	720	LB4	310	175	175	0		1	B14
585 015 075 SMF	85	750	LB4	310	175	175	0		1	B14
585 046 075 SMF	85	750	L4	310	175	190	0		1	B13
585 102 070 SMF	85	700	L5	353	175	190	0		1	B13
588 120 075 SMF	88	750	LB5	353	175	175	0		1	B14
588 027 075 SMF	88	750	L5	353	175	190	0		1	B13
595 021 080 SMF	95	800	LB5	353	175	175	0		1	B14
595 038 080 SMF	95	800	L5	353	175	190	0		1	B13
600 130 084 SMF	100	840	LB5	353	175	175	0		1	B14
600 044 084 SMF	100	840	L5	353	175	190	0		1	B13

BEST SELLER

FORMULA ASIA SERIES

MONBAT Formula series is a vast range of automotive batteries complying with all auto car park and OE specifications. It is designed for average equipment vehicles which require extra starting power with consistently high performance for longer periods of time.



BENEFITS

SEALED MAINTENANCE FREE

- Original equipment (OE) quality product and specification
- Advanced Ex-Metal Calcium technology for exceptional starting power
- High level safety and longer life with built-in SMF labyrinth system for gas recombination
- Designed & developed for the complete international auto park of European and Asian models of cars
- Comprehensive range of DIN and JIS available in a HIGH HEAT Technology for Tropical Markets
- Built-in charge level indicator - MAGIC EYE
- Eco Friendly Product and 99% Recyclable

RECOMMENDED FOR:

- Designed & developed for vehicles with average to high power demands
- Ideal compatibility with moderate power train vehicles for everyday driving
- Comprehensive Range with 58 models with 99% auto park coverage

LIGHT VEHICLE BATTERY RANGE

MONBAT
BATTERIES



EXTREME
TEMPERATURES



MODERATE
EQUIPMENT



NORMAL
DRIVING



SEALED
MAINTENANCE
FREE



LIFE
EXPECTANCY



CCA
CAPABILITY



BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

Water consumption	Charge retention	Vibration resistance	Endurance Level
W4	C2	V1	E1

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
530 020 025 SMF	32	250	B19	197	128	220	0		3	B00
530 022 025 SMF	32	250	B19	197	128	220	1		3	B00
535 020 030 SMF	35	300	B19	197	128	220	0		3	B00
535 022 030 SMF	35	300	B19	197	128	220	1		3	B00
535 087 030 SMF	35	300	B19	197	128	220	0		3	B01
545 084 033 SMF	45	330	B24	237	128	220	0		3	B00
545 051 033 SMF	45	330	B24	237	128	220	1		3	B00
545 023 033 SMF	45	330	B24	237	128	220	0		1	B00
545 024 033 SMF	45	330	B24	237	128	220	1		1	B00
550 054 040 SMF	50	400	D23	230	170	220	0		1	B01
550 056 040 SMF	50	400	D23	230	170	220	1		1	B01
560 068 045 SMF	60	450	D23	230	170	220	0		1	B01
560 069 045 SMF	60	450	D23	230	170	220	1		1	B01
560 048 045 SMF	60	450	D26	260	170	220	0		1	B01
560 049 045 SMF	60	450	D26	260	170	220	1		1	B01
570 029 056 SMF	70	560	D26	260	170	220	0		1	B01
570 024 056 SMF	70	560	D26	260	170	220	1		1	B01
570 021 056 SMF	70	560	D31	304	173	220	0		1	B01
570 022 056 SMF	70	560	D31	304	173	220	1		1	B01
590 018 063 SMF	85	630	D31	304	173	220	0		1	B01
590 019 063 SMF	85	630	D31	304	173	220	1		1	B01
600 032 073 SMF	95	730	D31	304	173	220	0		1	B01
600 033 073 SMF	95	730	D31	304	173	220	1		1	B01

CLASSIC DYNAMIC SERIES

MONBAT Dynamic series is a basic range of automotive batteries for older generation cars with moderate power equipment. It is a reliable solution thanks to the latest technologies that offer great value for money.



BENEFITS

SEALED MAINTENANCE FREE

- Original equipment (OE) quality product and specification.
- Advanced Ex-Metal Calcium technology for reliable starting power
- High level safety and longer life with built-in SMF labyrinth system for gas recombination
- The range is available upon request with standard Euro Kamina lid and reverse polarity
- Available in dry charge execution
- Eco Friendly Product and 99% Recyclable

RECOMMENDED FOR:

- Ideal compatibility with standard power train vehicles
- Comprehensive Range for wide EU car park coverage

LIGHT VEHICLE BATTERY RANGE

MONBAT®
BATTERIES



MODERATE
TEMPERATURES



STANDARD
EQUIPMENT



NORMAL
DRIVING



SEALED
MAINTENANCE
FREE



LIFE
EXPECTANCY



CCA
CAPABILITY



BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

Water consumption	Charge retention	Vibration resistance	Endurance Level
W3	C2	V1	E1

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout		Terminals	Hold Down
540 046 032	40	320	LB1	207	175	175	0		1	B14
540 025 032	40	320	L1	207	175	190	0		1	B13
545 012 036	45	360	LB1	207	175	175	0		1	B14
545 059 036	45	360	L1	207	175	190	0		1	B13
550 014 042	50	420	LB1	207	175	175	0		1	B14
550 027 042	50	420	L1	207	175	190	0		1	B13
545 019 036	45	360	LB2	242	175	175	0		1	B14
550 056 042	50	420	LB2	242	175	175	0		1	B14
550 103 042	50	420	L2	242	175	190	0		1	B13
555 019 048	55	480	LB2	242	175	175	0		1	B14
555 059 048	55	480	L2	242	175	190	0		1	B13
560 077 054	60	540	LB2	242	175	175	0		1	B14
560 076 054	60	540	LB2	242	175	175	1		1	B14
560 078 054	60	540	L2	242	175	190	0		1	B13
563 018 052	63	520	LB3	278	175	175	0		1	B14
566 013 058	66	580	LB3	278	175	175	0		1	B14
566 048 058	66	580	L3	278	175	190	0		1	B13
570 014 064	70	640	LB3	278	175	175	0		1	B14
570 083 064	70	640	L3	278	175	190	0		1	B13
575 046 068	75	680	LB3	278	175	175	0		1	B14
575 012 068	75	680	L3	278	175	190	0		1	B13
580 045 072	80	720	LB4	310	175	175	0		1	B14
585 102 070	85	700	L5	353	175	190	0		1	B13
588 120 075	88	750	LB5	353	175	175	0		1	B14
588 027 075	88	750	L5	353	175	190	0		1	B13
595 021 080	95	800	LB5	353	175	175	0		1	B14
595 038 080	95	800	L5	353	175	190	0		1	B13
600 044 084	100	840	L5	353	175	190	0		1	B13

HEAVY-DUTY BATTERY RANGE



AGM SERIES



EFB SERIES



SHD SERIES



SMF SERIES



HD SERIES

VEHICLE REQUIREMENTS

LIFE EXPECTANCY	■ ■ ■ ■ ■
EQUIPMENT LEVEL	■ ■ ■ ■ ■
VIBRATION RESISTENCE	■ ■ ■ ■ ■
CYCLING CAPABILITY	■ ■ ■ ■ ■
CRANKING POWER - CCA	■ ■ ■ ■ ■
VALUE FOR CUSTOMER	■ ■ ■ ■ ■

RECOMMENDATION BY

APPLICATION	TYPE OF VEHICLE		AGM SERIES
REAR END INSTALLATION	 	Long-haul modern trucks, Modern interstate buses	✓
HOTEL FUNCTION	 	Long-haul modern trucks, Modern interstate buses	✓
VIBRATION RESISTENCE	 	Long-haul modern trucks, Modern interstate buses	✓
ROUGH TERRAIN	  	Long-haul modern trucks, Modern interstate buses, Tractors and agricultural vehicle	✓
CYCLING CAPABILITY	   	Long-haul modern trucks, Modern interstate buses Express delivery trucks Utilities vehicles	✓
EQUIPMENT LEVEL	   	Long-haul modern trucks, Modern interstate buses Express delivery trucks Utilities vehicles	✓
EXTREME CLIMATE	 	Standart trucks with engines working at high temperatures	
SPECIAL (AGRICULTURAL AND CONSTRUCTION) VEHICLES	   	Tractors and agricultural vehicles, Construction machines	
STANDARD VEHICLES, OLDER FLEETS	 	Standart and older vehicles	

■ ■ ■ ■ ■	■ ■ ■	■ ■ ■	■ ■
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■ ■ ■ ■ ■	■ ■ ■	■ ■ ■	■ ■
■ ■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■	■ ■

EFB SERIES	SHD SERIES	SMF SERIES	HD SERIES
✓			
✓			
✓	✓		
✓	✓		
✓	✓		
✓	✓		
✓	✓	✓	
✓	✓	✓	✓
	✓	✓	✓

THE FUTURE AGM SUPER HEAVY DUTY

MONBAT AGM SHD is newest generation commercial vehicle battery that combines latest VRLA technology for unmatched deepcycle performance with high degree of reliability for your fleet. It has been developed in cooperation with the leading OEMs to support latest equipment innovations that will become standard for heavy duty vehicles in the near future. AGM Super Heavy Duty is the optimal solution for unlocking highest demanding application and power hungry features in next generation trucks and buses.



BENEFITS

VALVE REGULATED LEAD-ACID (VRLA)

- Original equipment (OE) quality product and specification
- 6 times better cycle life stability compared to conventional batteries.
- Withstands deep discharges up to 80% DOD for maximum reliability.
- Highest cold cranking amperes (CCA) enables engine starts even in extreme climates while keeping hotel functioning
- Maximum level of safety by AGM VRLA technology (Valve Regulated)
- Highest Vibration Resistance V3/V4
- Maintenance Free Technology with long lifespan
- Ensuring fuel saving and reducing CO2 emissions
- Eco Friendly Product and 99% Recyclable

RECOMMENDED FOR:

- Rear chassis installation (EURO5/6)
- Latest generation long-haul trucks with advanced hoteling function
- Latest generation city buses and coaches with highest electrical equipment
- Newest express delivery trucks with power hungry equipment or deep cycling needs
- Applications with partial state of charge operation
- Any rough terrain application under high vibrations

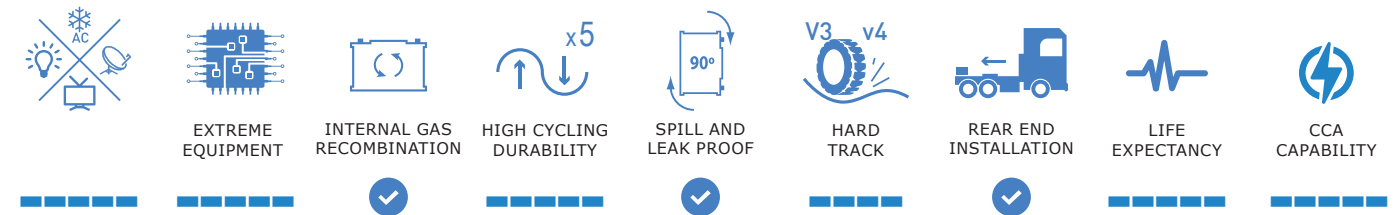
REMEMBER

AGM BATTERY
MUST BE REPLACED
WITH AGM.



HEAVY-DUTY BATTERY RANGE

MONBAT®
BATTERIES



BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

Water consumption	Charge retention	Vibration resistance	Endurance Level	Micro-cycle performance
W4	C2	V3/V4	E3	M2

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout		Terminals	Hold Down
720 901 140	220	1400	C	514	274	242	3		1	B00

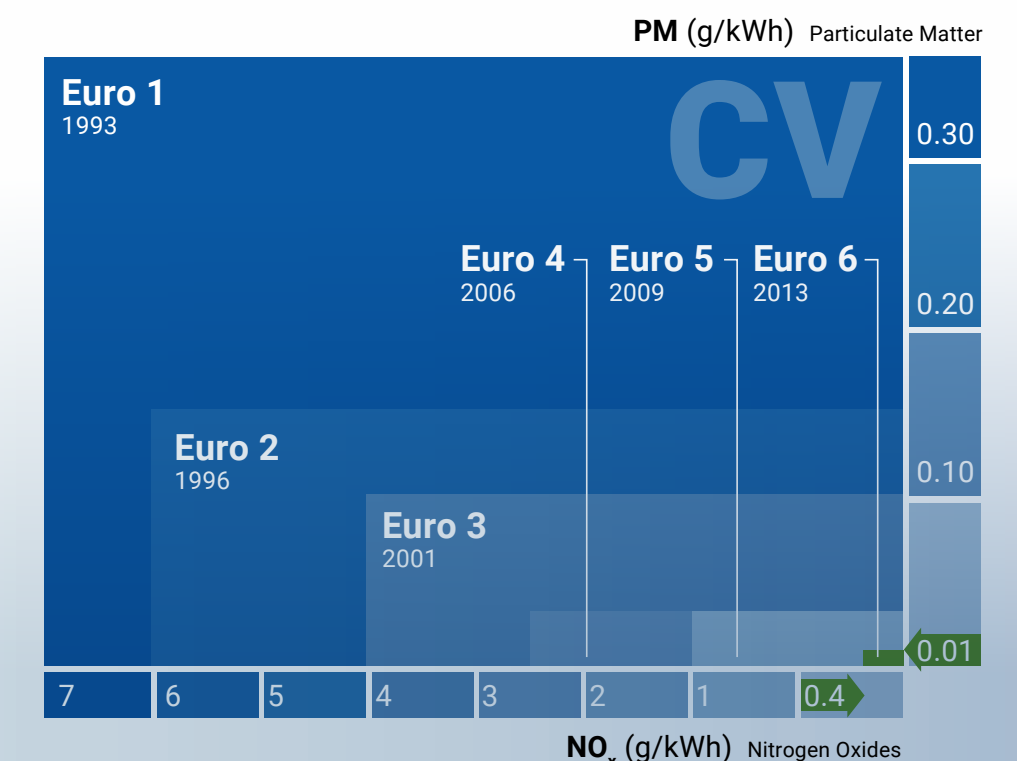
New EU Directives

After 2009 EU had taken further measurements regarding the NOx emissions and reducing the particulate matter.

Nowadays Euro 5/Euro 6 vehicles have new chassis design to integrate the Selective Catalytic Reduction (SCR) system and AdBlue tank.

Truck manufacturers moved the batteries into the rear-chassis position and the batteries collected a vast amount of vibrations.

EMISSION STANDARDS AS DEFINED BY EU DIRECTIVES



NEW TREND

EFB SUPER HEAVY DUTY

Today commercial vehicles are no longer simple trucks which are used as pure transport or work vehicles. Increased environmental regulations are changing the trends on the market and truck battery today must provide not only reliable starting power, but ability to supply high power electronic equipment in EURO 5/6 vehicles. MONBAT EFB SHD range is now upgraded and enhanced to meet big energy requirements combined with high vibration resistance for absolute reliability of your fleet.



BENEFITS

SEALED MAINTENANCE FREE

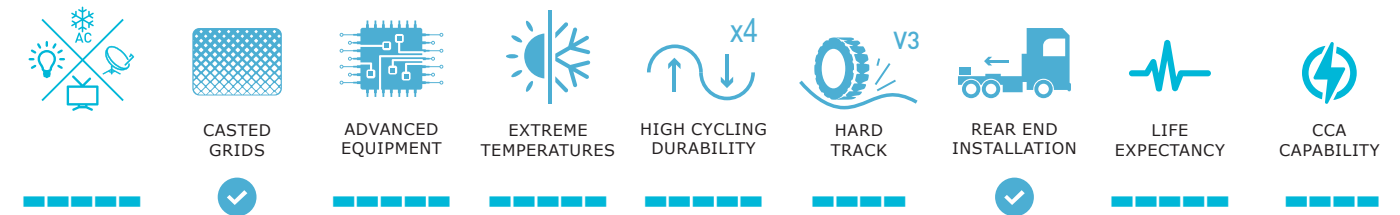
- Original equipment (OE) quality product and specification
- 3 times the cycle life stability compared to conventional batteries
- Exceptional dynamic charge acceptance thanks to carbon technology additive in NAM
- Highest Vibration Resistance V3/V4 thanks to robust design
- High cold cranking amperes (CCA) and reliable starting after overnight stay
- High level safety and longer life with built-in SMF labyrinth system for gas recombination
- Eco Friendly Product and 99% Recyclable

RECOMMENDED FOR:

- Rear chassis installation (EURO5/6)
- Power hungry long-haul trucks including hoteling function
- Advanced City buses and Coaches with additional electrical equipment & consumers
- Express delivery trucks with power hungry equipment or deep cycling needs
- Applications with partial state of charge operation
- Rough terrain machines and vehicles with high vibrations
- Compatibility with any standard power train commercial vehicle with lots of regular short journeys & stops

HEAVY-DUTY BATTERY RANGE

MONBAT®
BATTERIES



BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

Water consumption	Charge retention	Vibration resistance	Endurance Level
W4	C2	V3	E2

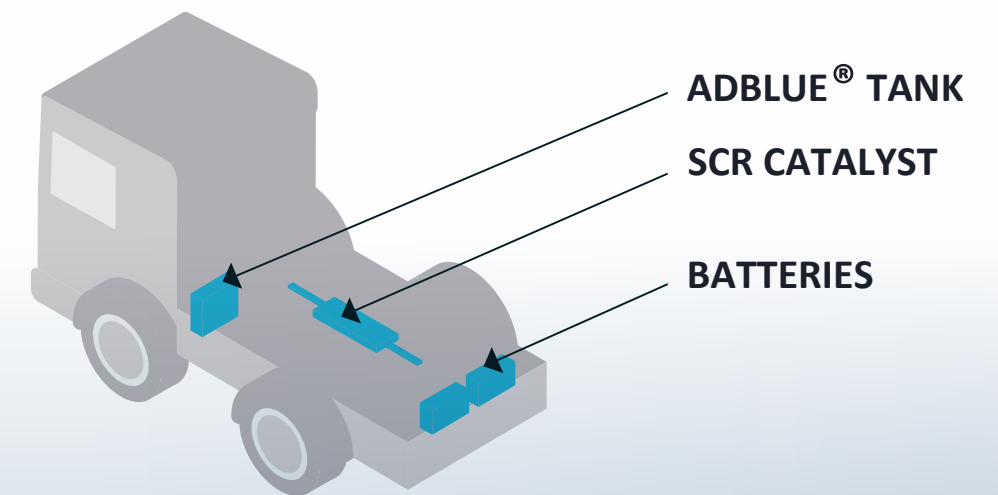
SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout		Terminals	Hold Down
685 002 110	185	1100	B	513	223	223	3		1	B00
735 002 125	235	1250	C	514	276	242	3		1	B00

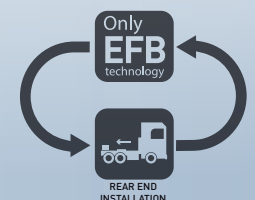
Fleet owners decision

Alongside the new EU Directives, several economic factors (higher fuel costs, road taxes, higher tolls, parking charges, higher charges for entering no emissions zone) have forced fleet owners to upgrade by purchasing new Euro 5/6 trucks. Installing the batteries at the rear faced the batteries under great vibrations.

Only batteries which have met V3/V4 test acc to EN 50342-6:2015 can guarantee a longer battery lifespan even in high vibration condition.



REMEMBER
EFB BATTERY
MUST BE REPLACED
WITH EFB.



UNLOCK YOUR FLEET POTENTIAL SUPER HEAVY DUTY

MONBAT SHD series is our newest high performance battery for wide range of commercial vehicles relying on unconditional power supply. The range is now sealed maintenance free with advanced glass free separator for great endurance and lifespan under heavy urban driving or mild cycling applications.



BENEFITS

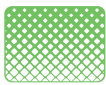
- Original equipment (OE) quality product and specification.
- 2 times better cycle life stability compared to conventional batteries.
- Robust and reliable design with hot melt resin for improved vibration resistance
- Excelent performance for light cycling applications
- High level safety and longer life with built-in SMF labyrinth system for gas recombination
- Eco Friendly Product and 99% Recyclable

SEALED MAINTENANCE FREE

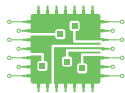
RECOMMENDED FOR:

- Standard chasis instalation (including EURO5/6)
- Long-haul trucks
- City buses and Coaches with moderate ectrical equipment
- Special vehicles with tail-lift platform
- Delivery or Utility vehicles in city traffic
- Rough terrain construction machines with high vibrations
- Any standard power train commercial vehicle with short journeys & stops

HEAVY-DUTY BATTERY RANGE



CASTED
GRIDS



ADVANCED
EQUIPMENT



HARD
TRACK



HIGH CYCLING
DURABILITY



LONG DISTANCE
DRIVING



LIFE
EXPECTANCY



CCA
CAPABILITY



BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

Water consumption	Charge retention	Vibration resistance	Endurance Level
W4	C2	V2	E2

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout		Terminals	Hold Down
640 020 085	140	850	A	513	189	220	3		1	B00
655 011 090	155	900	A	513	189	220	3		1	B00
670 043 100	170	1000	B	513	223	223	3		1	B00
680 032 110	180	1100	B	513	223	223	3		1	B00
700 106 115	200	1150	B	513	223	223	3		1	B00
700 027 115	200	1150	C	514	276	242	3		1	B00
730 011 125	230	1250	C	514	276	242	3		1	B00

Monbat SHD offers Extra Life when mounted in standard power train commercial vehicle without special requirements. The best choice for hard working vehicles and contruction machines

EXTRA LIFE
FOR CONVENTIONAL
VEHICLES



BEST SELLER

SMF SERIES

MONBAT SMF series is a vast range of heavy duty batteries complying with complete international CV park and any OE specifications. It is designed for standard commercial vehicles which require extra starting power with consistenly high performance for longer periods of time.



BENEFITS

SEALED MAINTENANCE FREE

- Original equipment (OE) quality product and specification
- Advanced ConCast/ConRoll technology for for great starting power and corrosion resistance
- Highest cranking power in extreme climates
- High level safety and longer life with built-in SMF labyrinth system for gas recombination
- Wide range including special types
- Eco Friendly Product and 99% Recyclable

RECOMMENDED FOR:

- Standard chasis instalation
- Various trucks and vehicles with large engines requiring high CCA
- Agricultural and construction machines
- Ideal for standard power train commercial vehicle without special requirements in terms of vibration or cycling power

HEAVY-DUTY BATTERY RANGE

MONBAT
BATTERIES



CASTED
GRIDS



MODERATE
EQUIPMENT



EXTREME
TEMPERATURES



LONG DISTANCE
DRIVING



LIFE
EXPECTANCY



CCA
CAPABILITY



BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

Water consumption	Charge retention	Vibration resistance	Endurance Level
W4	C2	V1	E2

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout		Terminals	Hold Down
600 102 070 SMF	100	700	GR31	336	173	235	9		1	B00
605 102 075 SMF	105	750	GR31	336	173	235	9		1	B00
610 102 080 SMF	110	800	GR31	336	173	235	9		1	B00
620 102 085 SMF	120	850	GR31	336	173	235	9		1	B00
620 103 085 SMF	120	850	GR31	336	173	235	9		8	B00
625 045 080 SMF	125	800	A	513	189	220	3		1	B00
640 020 090 SMF	140	900	A	513	189	220	3		1	B00
655 011 095 SMF	155	950	A	513	189	220	3		1	B00
655 013 095 SMF	155	950	B	513	223	223	3		1	B00
670 043 105 SMF	170	1050	B	513	223	223	3		1	B00
680 032 115 SMF	180	1150	B	513	223	223	3		1	B00
680 031 115 SMF	180	1150	B	513	223	223	4		1	B00
700 027 120 SMF	200	1200	C	514	276	242	3		1	B00
730 011 130 SMF	230	1300	C	514	276	242	3		1	B00
730 112 130 SMF	230	1300	C	514	276	242	4		1	B00

CLASSIC HEAVY DUTY

MONBAT HD series is conventional range of batteries for standard and older generation commercial and agricultural vehicles with basic power equipment. It is a reliable solution thanks to the latest technologies that offer great value for money.



BENEFITS

SEALED MAINTENANCE FREE

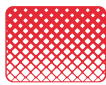
- Advanced ConCast/ConRoll technology for great starting power and corrosion resistance
- High cranking power during extreme weather conditions
- Complete range covering almost 100% of vehicle park including special types
- Available in dry charge execution and reverse polarity
- Eco Friendly Product and 99% Recyclable

RECOMMENDED FOR:

- Standard chasis instalation
- Various trucks and vehicles with large engines requiring high CCA
- Agricultural and construction machines
- Continuous multi-start performance
- Ideal for standard power train commercial vehiclewithout special requirements in terms of vibration or cycling power

HEAVY-DUTY BATTERY RANGE

MONBAT
BATTERIES



CASTED
GRIDS



STANDARD
EQUIPMENT



MODERATE
TEMPERATURES



LIFE
EXPECTANCY



CCA
CAPABILITY



BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

Water consumption	Charge retention	Vibration resistance	Endurance Level
W3	C2	V2	E1

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity Ah	CCA A [EN]		L	W	H	Layout	Terminals	Hold Down	
600 026 070	100	700	E41/N100	413	175	223	0		1	B00
600 035 070	100	700	E41/N100	413	175	223	1		1	B00
595 016 065	95	650	LOT 7	345	175	230	0		1	B00/B01
595 017 065	95	650	LOT 7	345	175	230	1		1	B00/B01
605 028 070	105	700	LOT 7	345	175	230	0		1	B00/B01
605 027 070	105	700	LOT 7	345	175	230	1		1	B00/B01
610 047 075	110	750	LOT 7	345	175	230	0		1	B00/B01
610 048 075	110	750	LOT 7	345	175	230	1		1	B00/B01
620 028 080	120	800	LOT 7	345	175	230	0		1	B00/B01
620 027 080	120	800	LOT 7	345	175	230	1		1	B00/B01
630 012 084	130	840	WOR 7	345	175	285	0		1	B00
630 014 084	130	840	WOR 7	345	175	285	1		1	B00
610 040 070	110	700	MAC 110	514	175	210	3		1	B03
625 087 080	125	800	MAC 110	514	175	210	3		1	B03
635 039 090	135	900	MAC 110	514	175	210	3		1	B03
625 045 080	125	800	A	513	189	220	3		1	B00
640 020 090	140	900	A	513	189	220	3		1	B00
630 013 080	130	800	MAC 140	514	218	210	3		1	B00
655 104 095	155	950	MAC 140	514	218	210	3		1	B03
670 034 105	170	1050	MAC 140	514	218	210	3		1	B03
643 017 090	143	900	B	513	223	223	3		1	B00
655 013 095	155	950	B	513	223	223	3		1	B00
670 043 105	170	1050	B	513	223	223	3		1	B00
680 032 115	180	1150	B	513	223	223	3		1	B00
700 027 120	200	1200	C	514	276	242	3		1	B00
730 011 130	230	1300	C	514	276	242	3		1	B00

GREEN BACKYARD LAWN AND GARDEN

MONBAT Lawn and Garden batteries are specially designed for powering ride-on movers, tillers and other garden machinery. From the heat of summer to the cold of winter, they deliver consistent starting power in every type of weather.



STANDARD EQUIPMENT

MODERATE TEMPERATURES

SEALED MAINTENANCE FREE

✓

LIFE EXPECTANCY

CCA CAPABILITY

BENEFITS

SEALED MAINTENANCE FREE

- Completely maintenance free, no fill-up necessary
- Enhanced safety, no leakage and spill proof
- Very high cranking performance
- Increased reliability
- High endurance
- Charge level indicator
- Eco Friendly Product and 99% Recyclable

RECOMMENDED FOR:

- Mowers and Ride-on mowers
- Tillers
- Chipper Shredders
- Snow Blowers
- Turf Vehicles

BATTERY CLASSIFICATION AS PER EN 50342 - 6:2015

Water consumption	Charge retention	Vibration resistance	Endurance Level
W3	C2	V1	E1

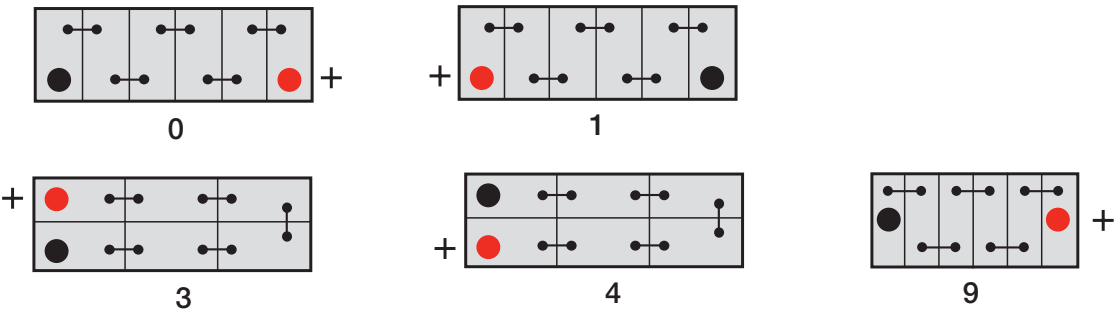
SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
528 015 025 SMF	28	250	U1	196	128	184	0		4	B00
528 016 025 SMF	28	250	U1	196	128	184	1		4	B00
532 030 028 SMF	32	280	U1	196	128	184	0		4	B00
532 034 028 SMF	32	280	U1	196	128	184	1		4	B00

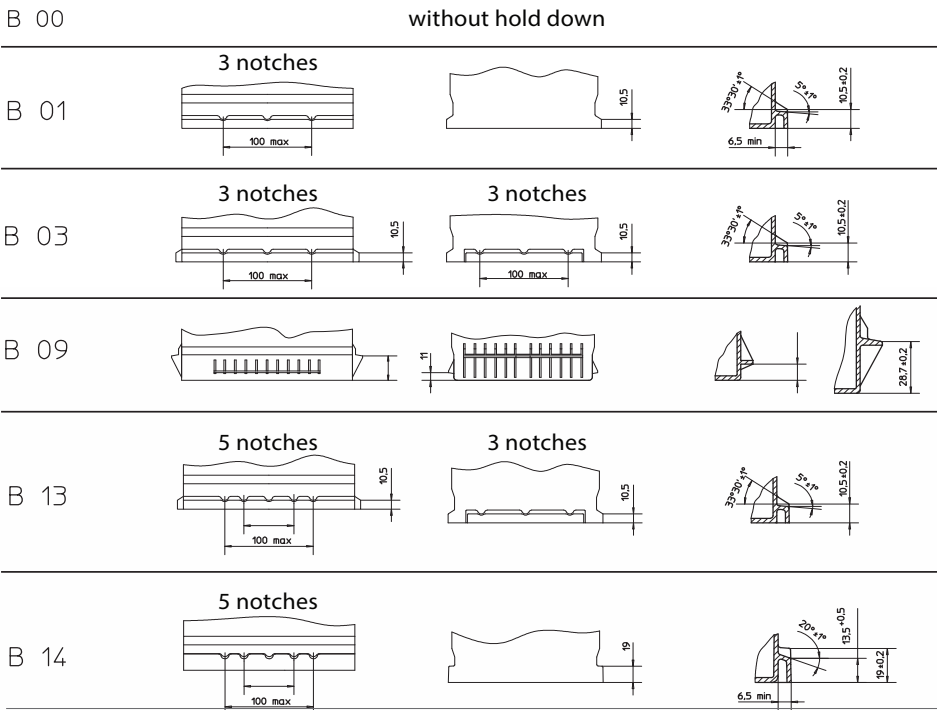
LEGEND

Cell Assembly Layout

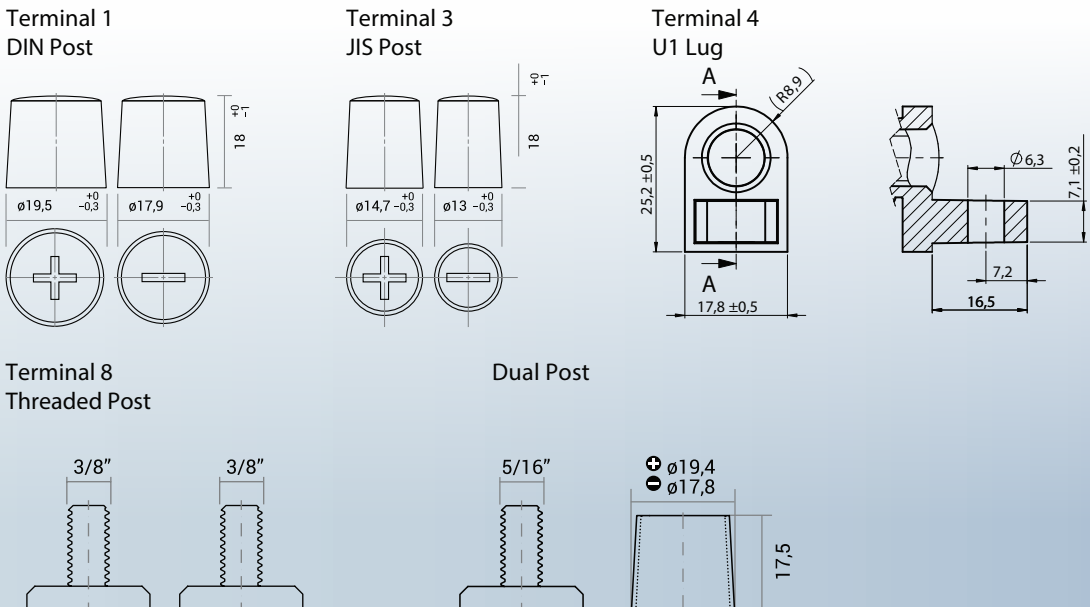
12 Volt



Hold Down



Type of Terminals





RECYCLE WITH

MONBAT®



THE SOURCE OF POWER

HEAD OFFICE

32 A Cherni vrah blvd.

1407 Sofia, Bulgaria

tel. +359 2 962 11 50

fax: +359 2 962 11 46

e-mail: contact@monbat.com

www.monbatgroup.com

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OHSAS 18001
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